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## THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

H. Michael SHEPARD

Title:

METHODS FOR TREATING

THERAPY-RESISTANT

**TUMORS** 

Appl. No.:

10/048033

International

7/21/2000

Filing Date:

371(c) Date:

Examiner:

Crane, Lawrence E.

Art Unit:

1623

Confirmation

2767

Number:

## SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR

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Atty. Dkt. No. 060925-0601

§1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a

prima facie art reference against the claims of the present application.

1

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b),

before the mailing date of the first Office Action on the merits.

RELEVANCE OF EACH DOCUMENT

All of the documents are in English.

Applicants respectfully request that each listed document be considered by the Examiner

and be made of record in the present application and that an initialed copy of Form PTO/SB/08

be returned in accordance with MPEP §609.

Although Applicant believes that no fee is required for this Request, the Commissioner is

hereby authorized to charge any additional fees which may be required for this Request to

Deposit Account No. 50-0872.

Respectfully submitted,

Date

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Antoinette F. Konski Attorney for Applicant

Registration No. 34,202

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Substitute for form 1449/PTO		Complete if Known
OIL S UNFORMATION DISCLOSURE	Application Number	10/048033
A TEMENT BY APPLICANT	Filing Date	7/21/2000
De Submitted: January 10, 2007	First Named Inventor	H. Michael Shepard
2 2007	Art Unit	1623
(use as many sheets as necessary)	Examiner Name	Crane, Lawrence E.
Sheet 1 of 6	Attorney Docket Number	060925-0601

U.S. PATENT DOCUMENTS								
Examiner	Cite	Document Number	Publication Date	Name of Patentee or Applicant of	Pages, Columns, Lines, Where Relevant			
Initials*	No. <sup>1</sup>	Number-Kind Code <sup>2</sup> (if known)	MM-DD-YYYY	Cited Document	Passages or Relevant Figures Appear			
	1	5,274,162	12-28-1993	Glazier				
	2	5,502,037	03-26-1996	Kondratyev				
	3	5,556,942	07-17-1996	Kauvar et al.				
	4	5,643,893	07-01-1997	Benson et al.	*			
	5	6,753,309	06-03-2004	Klecker et al				
	6	2002/0119094	08-29-2002	Klecker et al.				
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	UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS							
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Application Document Serial Number-Kind Code <sup>2</sup> (if known)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			

	FOREIGN PATENT DOCUMENTS										
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> ( <i>if known</i> )	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Т <sup>6</sup>					
	7	EP 0095294	11-30-1983	Beecham Group PLC							
	8	EP 0283065	09-21-1988	Stichting REGA VZW		<b>†</b>					
	9	WO 92/020344	11-26-1992	Glaxo Group Ltd.							
	10	WO 95/09865	04-13-1995	Terrapin Technologies, Inc.							

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	Substitute for f	form 1449/F	то		Complete if Known	
	INFORMATION	DISCLO	SURE	Application Number	10/048033	
	STATEMENT E	BY APPLIC	CANT	Filing Date	7/21/2000	
	Date Submitted:	January 1	0 2007	First Named Inventor	H. Michael Shepard	
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	(use as many she	ets as nec	cessary)	Examiner Name	Crane, Lawrence E.	
Sheet	2	of	6	Attorney Docket Number	060925-0601	

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Examiner Initials*	Cite No.1	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>		
	11_	WO 99/08110	02-18-1999	NewBiotics, Inc.				

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>®</sup>
	12	ALMASAN et al. "Deficiency of retinoblastoma protein leads to inappropriate S-phase entry, activation of E2F-responsive genes, and apoptosis" PNAS, USA 92:5436-5440 (June 1995)	
	13	ASCHELE et al. (June 1999) "Immunohistochemical quantitation of thymidylate synthase expression in colorectal cancer metastases predicts for clinical outcome to fluorouracil-based chemotherapy" J. Clin. Oncol. 17(6):1760-1770	
	14	BALZARINI et al., "Increased sensitivity of thymidine kinase-deficient (TK-) tumor cell lines to the cell growth inhibitory effects of (E)-5-(2-bromovinyl)-2'-deoxyuridine (BVDU) and related compounds", Anticancer Research, vol. 6, 1986, pp. 1077-1084, Belgium, 1986.	ib.
	15	BALZARINI et al., "Marked inhibitory activity of masked aryloxy aminoacyl phosphoramidate derivatives of dideoxynucleoside analogues against visna virus infection", Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology, vol. 17, pp. 296-302, Belgium, 1998.	
	16	BALZARINI et al. "Mechanism of anti-HIV action of masked alaninyl d4T-MP derivatives" PNAS USA 93:7295-7299 (July 1996)	
. 1	17	BASTIAN et al. "Inhibition of thymidylate synthetase in thymidylate synthase" J. Med. Chem. 24:1385-1388 (1981)	
	18	CRUICKSHANK et al. "Oligonucleotide labeling: A concise synthesis of a modified thymidine phoporamidite" Tetrahedron Lett. 29(41):5221-5224 (1988)	
	19	CURTIN et al. "Mechanism of Cell Death following Thymidylate Synthase Inhibition: 2'-Deoxyuridine-5'-triphosphate Accumulation, DNA Damage, and Growth Inhibition following Exposure to CB3717 and Dipyridamole" Cancer Res. (May 1, 1991) 51:2346-2352	
	20	DOLNICK et al. "rTS Gene Expression is Associated with Altered Cell Sensitivity to Thymidylate Synthase Inhibitors" <i>Adv. Enzyme Reg.</i> (1996) <b>36</b> :165-180	

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	Date Submitted:	January 1	0.2007	First Named Inventor	H. Michael Shepard	
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		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	Т
	21	EDLER et al. "Immunohistochemically detected thymidylate synthase in colorectal cancer: An independent prognostic factor of survival" Clinical Cancer Research 6:488-492 (February 2000)	
	22	FAN et al. "Functional roles of E2F in cell cycle regulation" Oncogene 14:1191-1200 (1997)	
	23	FREEMANTLE et al. "Molecular characterisation of two cell lines selected for resistance to the folate-based thymidylate synthase inhibitor, ZD1694" British Journal of Cancer 71:925-930 (1995)	
	24	FUNK "Cancer cell cycle control" Anticancer Research 19:4772-4780 (1999)	
	25	GOEL et al. "Selective Intraperitoneal Biochemical Modulation of Methotrexate by Dipyridamole" J. Clin. Oncol. (February 1989) 7(2):262-269	
	26	GORLICK et al. "Drug Resistance in Colon Cancer" Semin. Olcol. (December 1999) 26(6):606-611	
	27	GRIFFITH et al. "Differential Inhibition of Nucleoside Transport Systems in Mammalian Cells by a New Series of Compounds Related to Lidoflazine and Mioflazine" <i>Biochem. Pharmacol.</i> (1990) <b>40(10)</b> :2297-2303	
	28	HOWELL et al. "Comparison of the Synergistic Potentiation of Etoposide, Doxorubicin, and Vinblastine Cytotoxicity by Dipyridamole" Cancer Res. (June 15, 1989) 49:3178-3183	
	29	HUSAIN et al. "Elevation of topoisomerase I messenger RNA, protein, and catalytic activity in human tumors: Demonstration of tumor-type specificity and implications for cancer chemotherapy" Cancer Research 54:539-546 (January 15, 1994)	
	30	JACKMAN "Folate-based thymidylate synthase inhibitors as anticancer drugs" Ann. Oncol. 6(9):871-881 (1995)	
····	31	JONES and MANN "New methods of synthesis of β-aminoethylpyrazoles" J. Am. Cancer Soc. 75: 4048-4052 (1953)	
	32	KRAJEWSKA et al. "Pyrimidine ribonucleoside phosphorylase activity VS 5- and/or 6-substituted uracil and uridine analogues, including conformational aspects" Biochem. Pharmacol. 31(6):1097-1102 (1982)	

Examiner Signature	Date Considered	

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	Date Submitted	d: January 1	10 2007	First Named Inventor	H. Michael Shepard	
	Date Outilities	a. January i	10, 2007	Art Unit	1623	
	(use as many s	heets as ne	cessary)	Examiner Name	Crane, Lawrence E.	
Sheet	4	of	6	Attorney Docket Number	060925-0601	

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	33	KRAUPP et al. "Membrane Transport of Nucleobases: Interaction with Inhibitors" Gen. Pharmacol. (1995) <b>26(6)</b> :1185-1190	
	34	LACKEY et al. "Enzyme-catalyzed therapeutic agent (ECTA) design: activation of the antitumor ECTA compound NB1011 by thymidylate synthase" <i>Biochem. Pharmacol.</i> (2001) <b>61</b> :179-189	
	35	LEE et al. "Inhibition of mouse thymidylate synthase promoter activity by the wild-type p53 tumor suppressor protein" Exp. Cell Res. 234:270-276 (1997)	
	36	LENZ et al. "p53 and thymidylate synthase expression in untreated stage II colon cancer: associations with recurrence, survival, and site" Clinical Cancer Research 4:1227-1234 (May 1998)	
	37	LEHMAN et al. "Modulation of RTX cytotoxicity by thymidine and dipyridamole in vitro: implications for chemotherapy" Cancer Chemother. Pharmacol. (2000) 45:142-148	
	38	LEICHMAN et al. "Quantitation of Intratumoral Thymidylate Synthase Expression Predicts for Disseminated Colorectal Cancer Response and Resistance to Protracted-Infusion Fluorouracil and Weekly Leucovorin" <i>J. Clin. Oncol.</i> (October 1997) <b>15(10)</b> :3223-3229	
	39	LENZ et al. "Thymidylate Synthase mRNA Level in Adenocarcinoma of the Stomach: A Predictor for Primary Tumor Response and Overall Survival" <i>J. Clin. Oncol.</i> (1995) <b>14(1)</b> :176-182	
	40	LES et al. "Modeling of reaction steps relevant to deoxyuridylate (dUMP) enzymatic methylation and thymidylate synthase mechanism-based inhibition" Journal of Biomolecular Structure & Dynamics 15(4):703-715 (1998)	
	41	LOOK et al. "Increased thymidine kinase and thymidylate synthase activities in human epithelial ovarian carcinoma" Anticancer Res. 17:2353-2356 (1997)	
	42	MADEC et al. "Some characteristics of fetal and adult isoenzymes of thymidine kinase in human breast cancers" Bull. Cancer 75:187-194 (1998)	
· ·	43	MADER et al. "Resistance to 5-fluorouracil" Gen. Pharma. 31(5):661-666 (1998)	-

Examiner Signature	Date Considered	

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	Date Submitted	l- Ianuary 1	10 2007	First Named Inventor	H. Michael Shepard		
	Date Oublimited	. January i	10, 2007	Art Unit	1623		
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Sheet	5	of	6	Attorney Docket Number	060925-0601		

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	44	MAHONY et al. "Dipyridamole Kinetics" Clin. Pharmacol. Ther. (March 1982) 31(3):330-338	i
	45	MOBASHERY et al. "Conscripting β-lactamase for use in drug delivery. Synthesis and biological activity of a cephalosporin C10-ester of an antibiotic dipeptide" J. Am. Chem. Soc. 108:1686-1688 (1986)	
	46	NEGISHI et al. "Enhancement of N4-aminocytidine-induced mutagenesis by Ni++ ion" Nucl. Acids Symposium 35:137-138 (1996)	
	47	NELSON et al. "Potentiation of Methotrexate Toxicity by Dipyridamole" Cancer Res. (June 1984) 44:2493-2496	
	48	PARADISO et al. "Thymidilate synthase and p53 primary tumour expression as predictive factors for advanced colorectal cancer patients" British J. of Cancer 82(3):560-567 (2000)	
	49	PEGRAM et al. "The effect of HER-2/neu overexperession on chemotherapeutic drug sensitivity in human breast and ovarian cancer cells" Oncogene 15:537-547 (1997)	
	50	PLUTA et al., "Synthesis and biological properties of 4-hydroxy, 4-thio-5-pyrimidine derivatives" Boll. Chim. Farm. 138(1):30-33 (1999)	
,	51	RAMU et al. "Circumvention of Adriamycin Resistance by Dipyridamole Analogues: A structure-activity relationship Study" Int. J. Cancer (1989) 43:487-491	
	52	ROMAIN et al. "Prognostic value of cytosolic thymidine kinase activity as a marker of proliferation in breast cancer" Int. J. Cancer 61:7-12 (1995)	
	53	ROTH et al. "p53 tumor suppressor gene therapy for cancer" Oncology 13(10)(5):148-154 (1999)	. <u>-</u>
	54	SABOULARD et al. "Characterization of the activation pathway of phosphoramidate triester prodrugs of stavudine and zidovudine" Mol. Pharmacol. 56:693-704 (1999)	
	55	SUKI et al. "Risk classification for large cell lymphoma using lactate dehydrogenase, beta-2 microglobulin, and thymidine kinase" Leukemia and Lymphoma 18:87-92 (1995)	
	56	TEH et al. "Tumor suppressor genes (TSG)" Anticancer Research 19:4715-4728 (1999)	

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Sheet	6	of	6	Attorney Docket Number	060925-0601	

NON PATENT LITERATURE DOCUMENTS							
Examiner Initials*							
	57	van LAAR et al. "Comparision of 5-fluoro-2'-deoxyuridine with 5-fluorouracil and their role in the treatment of colorectal cancer" <i>European J. Cancer</i> (1998) <b>34(3)</b> :296-306					
	58	WALLIS et al. "Synthesis and anit-HIV activity of C4-modified pyrimidine nucleosides" Il Farmaco 54:83-89 (1999)					
	59	ZEID et al. "Synthesis of new thiolated acyclonucleosides with potential anti-HBV activity" Nucleosides & Nucleotides 18(1):95-111 (1999)					
		·					

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